

IN THE UNITED STATES COURT FOR THE DISTRICT OF UTAH
NORTHERN DIVISION

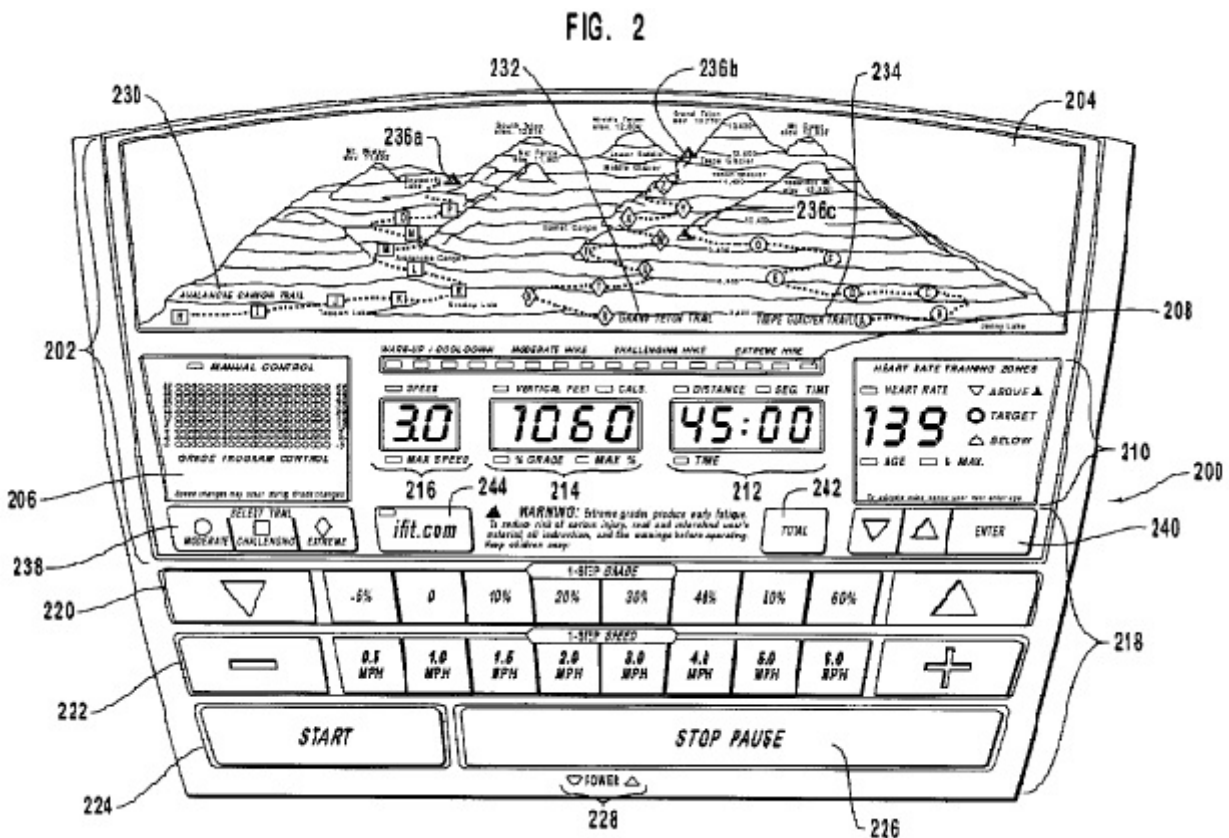
<p>INTERACTIVE FITNESS HOLDINGS, LLC, a Delaware corporation,</p> <p>Plaintiff,</p> <p>vs.</p> <p>ICON HEALTH & FITNESS, INC., a Delaware corporation,</p> <p>Defendant.</p>	<p>MEMORANDUM DECISION AND ORDER</p> <p>Case No. 1:11-CV-00075</p> <p>Judge Dee Benson</p>
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In this Memorandum Decision the court addresses the parties' cross-motions for summary judgment regarding patent infringement and plaintiff's motion for summary judgment based on invalidity. The court heard oral argument on these motions on August 22, 2012.

BACKGROUND

This case centers on U.S. Patent No. 6,447,424 (the "424 Patent") which was issued on September 10, 2002 to Darren Ashby, Scott R. Watterson, and Kirk Lorrigan, all Utah residents. (Dkt. No. 77-1, Ex. 1 to Cutler Decl., '424 Patent.) The '424 patent generally describes a display controller system for use on exercise equipment, including treadmills and exercise bicycles. (Id. at 1, Abstract.) The system is designed to electronically simulate a ride on a realistic mountain

trail through adjustments for “resistance, incline and speed.” The device is designed to allow the rider to look at the display panel and see “at one glance” all of the important information regarding distance traveled, elevation, grade, speed and time spent exercising. (*Id.*) The system permits the user to design his or her own workout program using such items as maps and GPS coordinates, with the goal of creating a realistic “virtual trail system.” (*Id.*) The device is both distance-based and time-based. The preferred embodiment shown in figure 2 of the specification depicts three separate actual trails located in Wyoming’s Grand Teton mountain range. The user may choose to adopt a hike or ride on one of these trails or may choose a different ride based on real-life or imaginary terrain. Figure 2 of the ‘424 patent is reproduced below:



Prosecution History

The Patent Examiner rejected the initial '424 application based on a previous patent that anticipated the claims of the '424 application. The Patent Examiner made a specific finding that the patent issued to Studor on November 28, 2000, U.S. Patent No. 6,152,856, qualified as prior art under 35 U.S.C. § 102(e). (Dkt. No. 72, Interactive Fitness' Mem. in Supp. at xv.)

The Studor patent involves an exercise bicycle with a monitor screen that gives the rider an “over-the-handlebars” view of a trail as it curves and bends and goes uphill and downhill. The resistance on the bicycle is adjusted by computer to approximate the ups and downs of the trail. Figure 1 of the Studor patent is shown below:

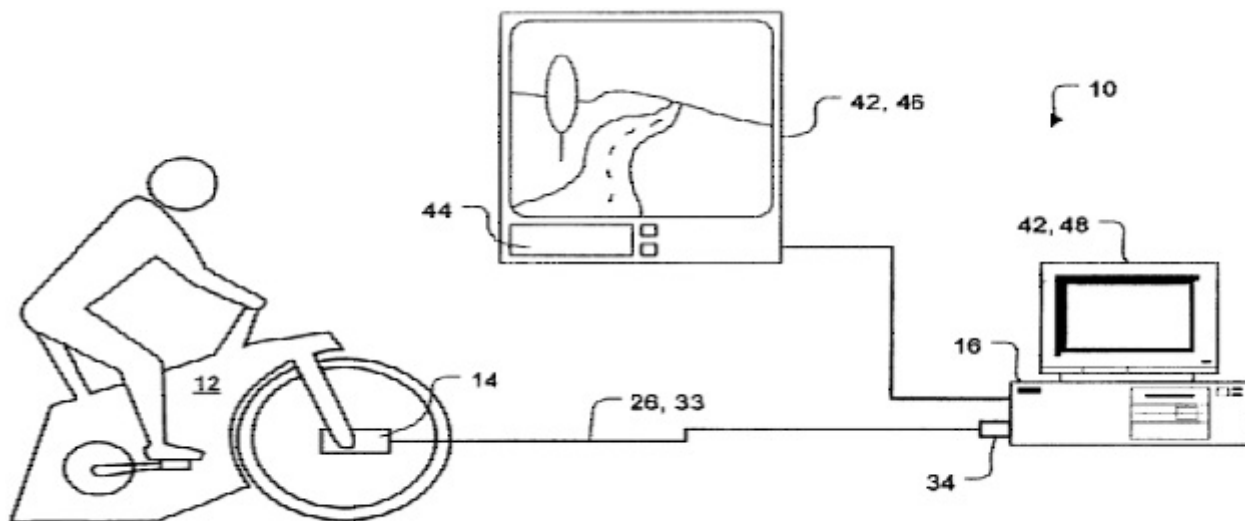


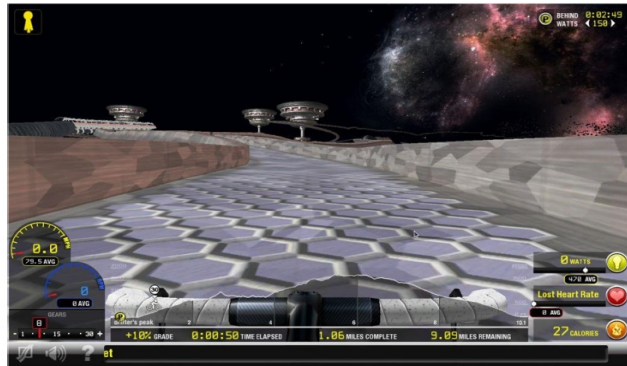
FIG. 1

The '424 patent's applicants did not dispute the Patent Examiner's finding that Studor qualified as prior art. Rather, they attempted to overcome the Studor patent by amending the claims of the '424 patent in several places to include limitations based on "topographical representations." The applicants argued to the Patent Examiner that the Studor patent does not disclose such topographical limitations. These new limitations appear multiple times in the amended application. For example, whereas the former application disclosed in Claim 1 an "indicator means" that would display "a trail to be traversed by a user . . . ," the amended Claim 1 disclosed an "indicator means" that would display "a topographical representation of a trail to be traversed by a user." (Dkt. No. 58, ICON's Mem. in Supp. at 5 ('424 Patent at 16:44-46; 18:9-10; 20:32-34, 50-51).) This new feature/limitation apparently satisfied the Patent Examiner. The '424 patent was issued on September 10, 2002.

This Case

Defendant ICON is the current owner, by assignment, of the '424 patent. ICON alleges in this lawsuit that Interactive Fitness' exercise cycles, specifically models S3r, S3u and S3y, literally infringe claims 1, 4, 21, 23, 32 and 43 of the '424 patent.

Generally speaking, the accused exercise cycles consist of the cycle itself and an "over-the-handlebars" display monitor. Briefly summarized, the upper portion of the monitor screen depicts a road or trail, much like the image on a video game. At the bottom of the screen is a two-dimensional line showing where the exerciser is on the trail along with the relative grade and elevations along the trail. Several different screen examples are shown below:



(Dkt. No. 76, Interactive Fitness' Mem. In Opp'n at xxi-xxiii.)

From the briefing and oral argument it is clear there is no genuine issue about any aspect of the '424 patent other than the "topographical representation" limitations.¹ Accordingly, with respect to infringement, the outcome depends on whether the accused products contain "topographical representations" as disclosed in the '424 patent. The answer to that inquiry, in turn, depends on how the claims containing the "topographical representation" limitations are construed, a task the court will address shortly. Before turning to that task, however, it is helpful to describe three additional products that figure prominently in Interactive Fitness' arguments

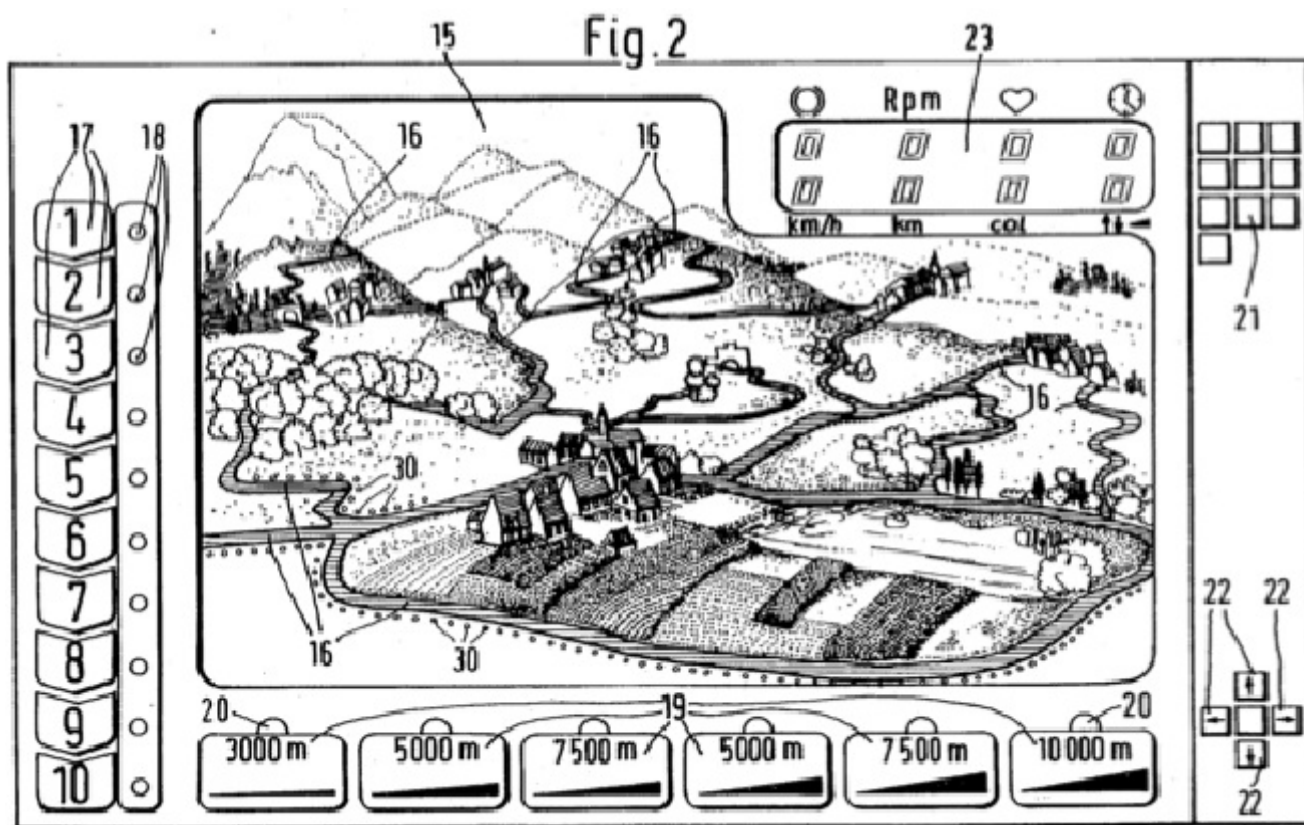
¹"[T]he disposition both of ICON's motion and Interactive Fitness' cross motion [for summary judgment regarding infringement] really turns [sic] on the proper interpretation of "topographical representation." (Dkt. No. 95, ICON's Reply at 1.)

regarding both infringement and invalidity.

The first is an exercise bicycle described as RacerMate CompuTrainer Professional Model 8001 which Interactive Fitness claims was available to the public in 1997. It features an above-the-handlebars display that contains a two-dimensional hill or trail elevation at the top of the screen, as illustrated below:



The second is U.S. Patent No. 4,786,046 issued to Peter Lautenschlager on November 22, 1998 for a bicycle ergometer whose invention contained a screen display “in the form of roads in a landscape . . . so that the user is always being shown where he is on the selected road at any moment. As in reality, the drive force which the user must create is dependent upon the gradient of the road” (Dkt. No. 72, Interactive Fitness’ Mem. in Supp. at xvii.) Figure 2 depicts the following scene from Patent No. 4,786,046.



(Id. at xvi.)

The third device is U.S. Patent No. 5,029,846 issued to Kuo-Wo Hao on July 9, 1991.

The patent is entitled “Control Device for Simulating Road Cycling for an Exercising Apparatus.”

(Dkt. No. 72, Interactive Fitness’ Mem. in Supp. at xxiv.) It discloses that the “object of the invention is to provide a control device for simulating road cycling for an exercising apparatus in which a rotatable cylinder which has a pattern or drawing of [sic: a] hill or the like provided therearound is provided to rotate to show a variation of the frictional load on flywheel [sic].” (Id. at xxvii.)

CLAIM CONSTRUCTION

Patents are the direct opposite of trade secrets. The latter require secrecy from the general public; the former total transparency to the world. The philosophy behind the patent system is to give an inventor the exclusive control of his invention for 20 years on the condition that he discloses it to the world.

Accordingly, the process requires written claims describing the patent, whether an apparatus, a process, or a design. This gives the rest of the world notice of what it is they cannot interfere with for the next 20 years. After that, the invention belongs to, and hopefully improves, the world. Claims that are written in understandable language are obviously expected; otherwise the world is in the dark about whether or not a given device or method infringes. To this end, patent law requires the claims to allow a person of ordinary skill in the art to know what the patent is and how to make it.

The patent system, thus, expects both full disclosure and clarity, of which the instant case is a poor example. Hence, this litigation, where the parties could not disagree more about the meaning of the relatively simple words “topographical representation.” ICON claims the words disclose a two-dimensional device that only quantifies elevation; Interactive Fitness claims the words describe a three-dimensional device that shows relative positions as well as elevations. Each party claims its interpretation is supported by the intrinsic record (that is, the complete record of the proceedings before the U.S. Patent and Trademark Office), and is further supported by extrinsic evidence, which includes standard dictionaries and declarations of persons who claim to be of ordinary skill in the art.

ICON asks the court to construe “topographical representation” as: “a pictorial device used

to illustrate variations in elevations along a trail to be traversed by a user.” (Dkt. No. 58, ICON’s Mem. in Supp. at 11.) The court finds no merit in this proposal. ICON’s attempt to limit the meaning of the term “topographical representation” to a two-dimensional device that illustrates only elevation is inconsistent not only with the prosecution history but also with every known definition of “topographical” in every dictionary of the English language.

Plain Meaning and the Prosecution History

It is helpful to remember the history that caused the words “topographical representation” to be added to the claims in the first place. The ‘424 patent had been rejected as anticipated by Studor, U.S. Patent No. 6,152,856, which disclosed an exercise bicycle with a computer and a monitor screen which allowed the user to view a trail as the user progresses along it, going uphill and downhill and around curves and so on. To overcome this prior art, the only thing added to the amended application was the insertion of the term “topographical representation” in several claims. In most of these the new limitation directly referred to a “trail to be traversed” by the user. For example, in claim 1, what was formerly disclosed in the original application as an “indicator means” that shows “a trail to be traversed by the user” became, in the amended application, an “indicator means” that shows “a ‘topographical representation’ of a trail to be traversed by the user.”

Thus, the amended application simply added the words “topographical representation” to the claims. It did not change the underlying apparatus. The specification and written description in the original application had clearly indicated that the exercise user could look at the monitor screen to see his location (and his relative elevation) on the trail. What these new words did was clarify that the representation of the trail was to be “topographical” in nature. This, of course,

narrowed the claim limitations and meant that any future device accused of violating the patent would need to satisfy this “topographical” requirement in order to infringe.

Figure 2 of the specification depicts “topographical representations” of three “trails to be traversed by the user.” They are seen at the top of the screen in a representation of Wyoming’s Grand Tetons mountain range. Each trail wends its way up to the top of different peaks. The patented device allows the user to see where he is on the trail as he works the pedals on the exercise bike, thereby allowing the exerciser to suspend his disbelief that he is not actually on the trail (but rather in a gym or his bedroom on a stationary bike) and give him the motivation to keep it up, to stay the course, to reach the top and finish his ride.

Against this background, the question before the court is simple: “What did the new words mean? Why did the ‘424 patent’s applicants choose to use the word “topographical?” It is undisputed that the applicants did not assign any special, or idiosyncratic, meaning to these new words. They simply chose the words they chose, which were enough to satisfy the patent examiner, and let it go at that. They made no effort to limit the meaning to only variations in elevation.

The answer, it seems to the court, is as simple as the question. Because there was never any attempt to give the term a specific definition (which the applicants were free to do) that differs from common usage and because it is also undisputed that the term “topographical representation” has no special meaning in the field of exercise equipment, the answer lies in the ordinary and customary meaning of the words themselves, with the focus on “topographical.” Topography (of which “topographical” is a derivative) is defined in the American Heritage

Dictionary as follows:

topography *n., pl. -phies* **1.** Detailed, precise description of a place or region. **2.** Graphic representation of the surface features of a place or region on a map, indicating their relative positions and elevations. **3.** A description or an analysis of a structured entity, showing the relations among its components: *In the topography of the economy, several depressed areas are revealed.* **4a.** The surface features of a place or region. **b.** The surface features of an object: *The topography of a crystal.* **5.** The surveying of the features of a place or region. **6.** The study or description of an anatomical region or part. **topographic** *n. -topographic, topographicical* *adj. -topographically* *adv.*

The American Heritage Dictionary 765, 1822 (4th ed. 2000).

Consistent with this definition, every other dictionary to which the court has been directed, and of which the court is aware, the meaning of “topographical” includes both “relative positions” and “relative elevations.”² In other words, a three-dimensional depiction that covers

²Additional dictionary definitions include:

topography *n.* the natural features of land, esp. the shape of its surface, or the science of mapping those features • *Volcanoes have sculpted the topography of the island.*

Cambridge Dictionary of American English, 920 (2000).

topography **1 a :** the art or practice of graphic delineation in detail on maps or charts of natural and man-made features of a place or region esp. in a way to show their relative positions and elevations **b:** topographical surveying **2 a :** the configuration of a surface indicating its relief and the position of its natural and man-made features **b :** the physical or natural features of an object or entity and their structural relationships.

Merriam-Webster's Collegiate Dictionary, 1244 (10th ed. 1997).

topography *n., pl. -phies.* **1.** the detailed mapping or charting of the features of a relatively small area, district, or locality. **2.** the detailed description, esp. by means of surveying, of particular localities, as cities, towns, or estates. **3.** the relief features or surface configuration of an area. **4.** the features, relations, or configuration of a structural entity. **5.** a schema of a structural entity, as of the mind, a field of study, or society, reflecting a division into distinct areas having a specific relation or specific position relative to one another. **topographic, topographical**, *adj. -topographically*, *adv.*

depth as well as elevation. For this reason, the court cannot accept ICON's construction. To do so would ignore the plain meaning of "topographical."

This case fits precisely the following language from Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005):

In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. In such circumstances, general purpose dictionaries may be helpful.

Id. at 1314; see also, Markman v. Westview Instruments, Inc., 52 F.3d 967, 980 (Fed. Cir. 1995).

Ironically, the above quotation appeared in ICON's opening brief, which quotation was followed by the above definition of "topography" from the The American Heritage Dictionary. Remarkably, after acknowledging this standard dictionary definition of "topography," ICON proceeds to argue that topographical representation in the '424 patent doesn't require the depiction of relative positions as well as relative elevations. According to ICON, the user of the '424 patent exercise bike, when looking to see where he is on one of the Teton trails, is only expected to see how high in the air he is and not to let his mind reflect on his position relative to the surrounding peaks, valleys, and other terrain. ICON goes so far as to describe the '424 patent as displaying an "exemplary topographical representation" while at the same time limiting it to elevation. (Dkt. No. 58, ICON's Mem. in Supp. at 13.) Why, if that is the case, one is led to wonder, not just show the rider a vertical line? Why show him the entire Grand Teton range? In describing the device the inventors emphasized the importance of creating a system that gives the

The Random House Dictionary of the English Language, 1997 (2d ed. 1987).

rider the illusion that he is working his way up a real trail, and an important aspect of that illusion is a picture to look at while he rides. Yet now ICON wants to limit that illusion to one of elevation, which construction, coincidentally, happens to render Interactive Fitness' devices as infringing. The plain meaning of the words eliminates that possibility.

Furthermore, ICON's proposed definition is inconsistent with the use in the '424 patent of the words "trail elevation" in many of the same claims that were later amended to add the words "topographical representation." For example, claims 2 and 31 each require a "topographical representation" and a "simulated trail elevation." A "simulated trail elevation" cannot be a "topographical representation" because different terms within the same claim should be construed to have different meanings. See Applied Med. Res. Corp. v. U.S. Surgical Corp., 448 F.3d 1324, 1333 n.3 (Fed. Cir. 2006). Indeed, although the record is not entirely clear on this point, it may well be the case that adding relative positions, that is, the third-dimension of depth, was the reason the amended application was successful. The original '424 patent clearly showed relative elevations along the trail to be traversed by the user. That feature alone did not satisfy the Patent Examiner that the '424 patent was patentable over Studor.

Based on the prosecution history and the plain meaning of the words at issue, and for the reasons presented in Interactive Fitness' memoranda³, the court rejects ICON's proposed

³The court makes no finding with regard to infringement based on Interactive Fitness' argument that ICON's claim construction is faulty because of prior art (i.e. the CompuTrainer Pro device) that has a two- dimensional hill elevation feature. The court sees that argument as relevant to the issue of invalidity.

construction of “topographical representation.”⁴

Interactive Fitness’ proposed construction of topographical representation is as follows: “A graphic representation of the surface features of a place or region on a map, indicating their relative positions and elevations.” This definition is taken from the American Heritage Dictionary, the same dictionary referenced above and used by ICON in its opening brief. With the exception of the word “map” the court agrees with Interactive Fitness, and with its supporting arguments. Accordingly, the court construes the term “topographical representation” as: A graphic representation of the surface features of a place or region, indicating their relative positions and elevations.

With regard to Interactive Fitness’ expert, Steven Lentz, the court finds him to qualify as one of skill in the relevant art, and agrees with his opinion, though also finds it unnecessary.

The ‘424 patent’s applicants chose to limit their patent to one disclosing a “topographical representation.” They, and their successors, are obliged to accept the plain English meaning of the words they chose. Their successors-in-interest may not re-interpret the words as they have attempted to do in this litigation, with the not-so-coincidental result, should their proposal be accepted, that the accused devices would infringe.

⁴The parties each submitted declarations from persons purporting to be experts. ICON offered the testimony of Mr. Kevin McManigal. Mr. McManigal is not qualified as a person of ordinary skill in the relevant field and the court is not persuaded by his opinions. The court also finds his testimony unnecessary and unhelpful.

CROSS MOTIONS FOR SUMMARY JUDGMENT
REGARDING INFRINGEMENT

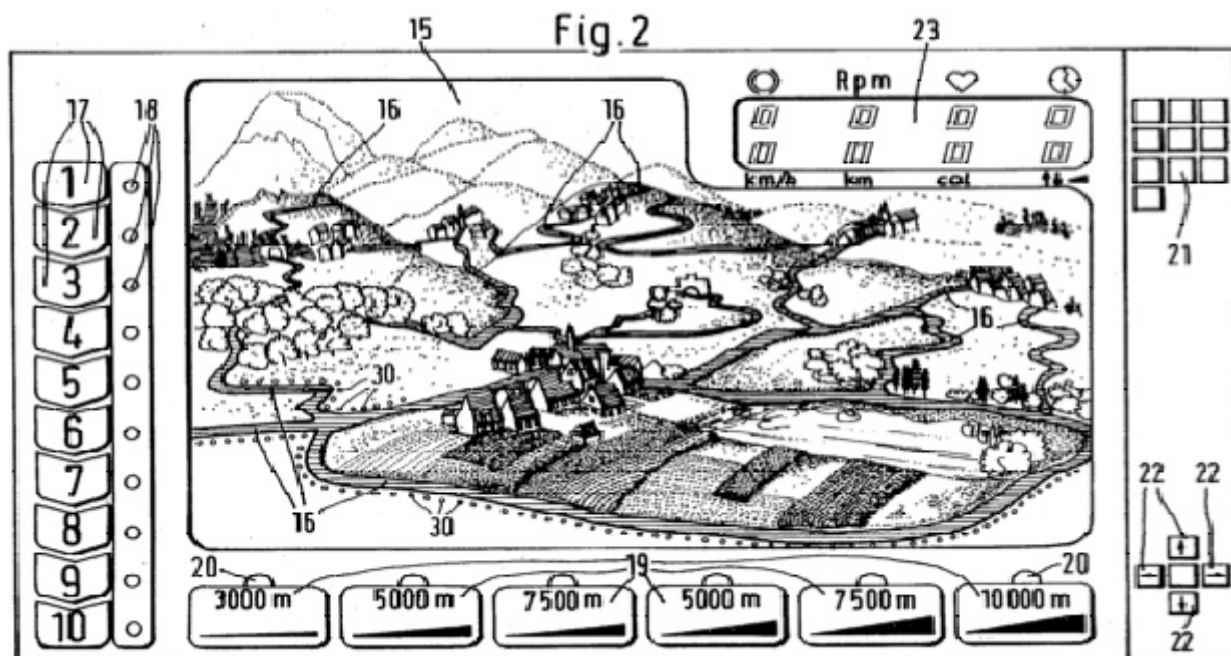
Given the court's construction of "topographical representation," as expressed above, the record evidence is clear that the Interactive Fitness devices do not infringe on the '424 patent. ICON has made it clear that it challenges the accused devices only with regard to the elevation lines on the bottom of the screens. These clearly depict only two-dimensional relative elevation data.

Accordingly, Plaintiff Interactive Fitness' motion for summary judgment of non-infringement is granted and Defendant ICON's motion for summary judgment of infringement is denied.

INVALIDITY

I. **Anticipation by Prior Art**

Interactive Fitness asserts that the '424 patent is invalid pursuant to 35 U.S.C. § 102 because each of its elements was disclosed in an earlier patent, No. 4,786,049, which was issued to Peter Lautenschlager in 1988. Interactive Fitness claims that the Lautenschlager patent presents an exercise bicycle with a display showing a topographical representation of a virtual trail being used by the exerciser, which is precisely like the '424 patent. The over-the-handlebars screen on the Lautenchlager device is shown below:



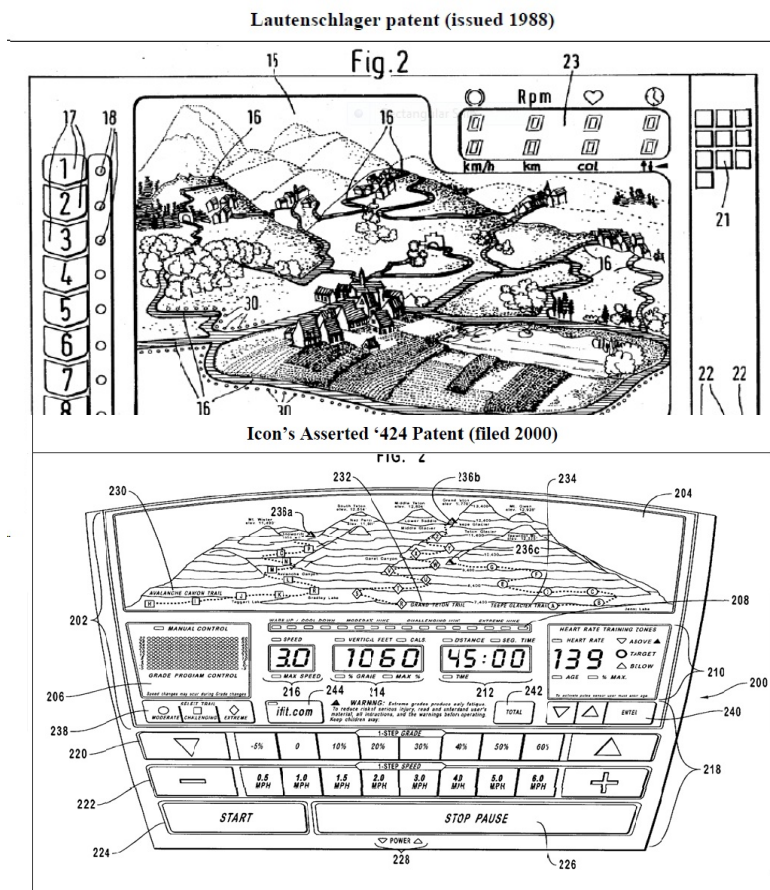
Interactive Fitness asserts that this virtual trail presents topographical representations that anticipate all of the claims in the '424 patent at issue in this case.

ICON argues that Lautenschlager falls short of teaching the topographical representation required by claims 1, 4, 21, 23, 32 and 43 of the '424 patent. ICON declares that Lautenschlager's Fig. 2 "does not present enough information to permit comparison even of the relative elevations of points along the length of the trails shown," and concludes its argument as follows: "Everybody agrees that a *topographical* representation of a trail, must at a minimum, represent variations in elevation along the length of the trail. Because Lautenschlager's representation does not it is not a *topographical* representation and therefore Lautenschlager cannot anticipate." (Dkt. No. 96, ICON's Mem. in Opp'n at 4 (emphasis in original) (citations omitted).)

Interactive Fitness counters ICON's arguments by asserting that (1) ICON's expert is not a

person of ordinary skill in the art and (2) in any event, no reasonable jury would need an expert to conclude that the topographical representation in Lautenschlager is equal to or better than that shown in the '424 patent regarding the depiction of a virtual landscape that includes hills and other changes in elevation.

To clarify these contrasting contentions, it is helpful to compare the embodiments of the Lautenschlager and the '424 patents:



The court agrees with Interactive Fitness. Whatever one makes of the quality of the “topographical representation” shown in Fig. 2 of the ‘424 patent, its equal is shown in Lautenschlager. The Lautenschlager patent clearly meets the requirement of a topographical representation to present a graphic representation of the surface features of a place, indicating their relative positions and elevation. The fact that Lautenschlager was not known by the patent examiner when the ‘424 patent was being reviewed does not affect the anticipation analysis. Tokai Corp. v. Easton Enterprises, Inc., 632 F.3d 1358, 1367 (Fed. Cir. 2011). If the invention had already been invented, the subsequent patent must be invalidated.

The court finds that no reasonable jury could fail to find that Lautenschlager teaches the topographical representation limitations of the ‘424 patent. Accordingly, the ‘424 patent is invalid by anticipation.

II. Obviousness

Alternatively, even if the court adopted ICON’s definition of topographical representation as “a pictorial device used to illustrate variation in elevations along a trail to be traversed by a user,” Interactive Fitness has moved for summary judgment that the ‘424 patent is invalid based on obviousness pursuant to Section 103(a) of the Patent Code. 35 U.S.C. § 103(a). Interactive Fitness claims that even adopting ICON’s definition, when one combines the Studor patent with either the CompuTrainer Pro apparatus, which was available to the public in 1997, or with U.S. Patent No. 5,029,846, which was issued to Hao in 1991, the ‘424 patent claims are obvious.

As explained above, the Patent Office rejected ICON's claims during prosecution, finding they were anticipated by the Studor patent. (Dkt. No. 72, Interactive Fitness' Mem. in Supp. of S.J. at xiv, xv.) To overcome this rejection, ICON added the "topographical representation" limitations that appear in the asserted claims. (Id.) The inventors argued that this was sufficient to distinguish the claims from the Studor patent because "[t]he Studor patent fails to disclose such a topographical representation." (Id.) Thus, ICON did not dispute that the Studor patent discloses all other claim limitations besides the "topographical representation" limitations, because it could not reasonably do so. (Id.) Accordingly, the only difference between the Studor patent and the claims are the "topographical representation" elements, which ICON now asserts includes a two-dimensional line showing the virtual elevation of the user as he progresses through the course. (Dkt. No. 58 at 12-13.)

Interactive Fitness claims that both Hao and the CompuTrainer manual – neither of which were provided to the patent examiner during the '424 patent's prosecution – disclose the use of a two-dimensional "elevation profile" for use on an exercise device. (Dkt. No. 72 at xxix.) Therefore, Interactive Fitness asserts, the use of such displays was common in the exercise equipment industry before 2000. (Id. at xxx.)

ICON asserts that one of ordinary skill in the art is a "person with education and/or experience relating to electrical and/or mechanical aspects of exercise and fitness equipment." (Id. at xxix.) Mr. Steve Lenx, Interactive Fitness' technical expert, agrees with this definition. (Id.) Interactive Fitness claims that it would have been obvious to a person of ordinary skill in the art – based on Hao, the CompuTrainer manual, or even that person's common sense – to add a two-

dimensional elevation profile to the Studor patent, because in 2000 such functionality was a well-known way to motivate a user to complete an exercise session by keeping the user apprised of his or her progress. (Id.)

The court agrees with Interactive Fitness. If the court were to accept ICON's claim construction, ICON's claims would be invalid as obvious. The present facts are analogous to those of KSR Intern. Co. v. Teleflex Inc., 550 U.S. 398 (2007), where the United States Supreme Court affirmed summary judgment on the grounds of obviousness. Id. at 411-26.

CONCLUSION

Given the court's construction of the "topographical representation" claim limitations, Plaintiff Interactive Fitness' motion for summary judgment of no patent infringement is GRANTED, and Defendant ICON's motion for summary judgment of patent infringement is DENIED.

Plaintiff Interactive Fitness' motion for summary judgment that the '424 patent is invalid as anticipated by prior art is GRANTED.

Alternatively, if ICON's definition of "topographical representation" were adopted by the court, Plaintiff Interactive Fitness' motion for summary judgment that the '424 patent is invalid based on obviousness would be GRANTED.

DATED this 25th day of February, 2013.



Dee Benson
United States District Judge